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Z-INTERCONNECTIONS WITH LIQUID CRYSTAL POLYMER DIELECTRIC FILMS

Abstract of the Disclosure

A multilayered stack and method of formation. First and second dielectric layers are
5 formed, respectively including first and second liquid crystal polymer (LCP) dielectric materials, with an electrically conductive plug through the first dielectric layer. A first and second electrical circuitization is formed in direct mechanical contact with a surface of the first and second dielectric layer, respectively, wherein the second electrical circuitization mechanically and electrically contacts an end of the plug, and wherein the plug is fluxlessly soldered to the
10 first electrical circuitization. The first and second dielectric layers and the first electrical circuitization are subjected to a temperature below the lowest nematic-to-isotropic transition temperature of the first and second LCP dielectric materials, for a dwell time and elevated pressure sufficient to cause the first and second LCP dielectric materials to directly bond the second dielectric layer to the first dielectric layer and to the first electrical circuitization.